**Standard USHC-8**: The student will demonstrate an understanding of the impact of World War II on United States' foreign and domestic policies.

**USHC-8.5** Explain the lasting impact of the scientific and technological developments in America after World War II, including new systems for scientific research, medical advances, improvements in agricultural technology, and resultant changes in the standard of living and demographic patterns. (H, G, E)

**Taxonomy Level:** 2B Understand/ Conceptual Knowledge

**Previous/future knowledge:**
In 5th grade, students summarized key developments in technology, aviation, weaponry, and communication and explained their effect on World War II and the economy of the United States (5-4.6). Students also explained the effects of increasing worldwide economic interdependence following World War II, including how interdependence between and among nations and regions affected economic productivity, politics, and world trade (5-4.7). They summarized changes in the United States economy following World War II, including the expanding job market and service industry, consumerism, and new technology (5-5.2).

In the 7th grade, students explained the significance and impact of the information, technological, and communications revolutions, including the role of television, satellites, computers, and the Internet (7-7.2). They explained global influences on the environment, including the effects of increases in population, the growth of cities, and efforts by citizens and governments to protect the natural environment (7-7.3).

In the 8th grade, students summarized the significant aspects of the economic growth experienced by South Carolina during and following World War II (8-7.1).

In Global Studies students exemplified the lasting impact of World War II, including,…the moral implications of military technologies and techniques such as the atomic bomb, the human costs of the war …(GS-5.6).

**It is essential for the students to know:**
**Scientific and technological developments after World War II** were stimulated by military funding during World Was II in such programs as the Manhattan Project and included the development of jet aircraft, radar, microwaves, computers and synthetic rubber in addition to the research and development of the atomic bomb. The Cold War further stimulated the production of weapons systems which resulted in a myriad of military products including the hydrogen bomb. The space race, accelerated by the launch of Sputnik by the U.S.S.R., included the launching of unmanned satellites (impacted worldwide communication), manned space flights, the U.S, moon landing, and the development of the international space station. These advancements soon impacted the **standard of living** and the consumer culture with microwave ovens, personal computers and an ever-expanding array of television channels through use of satellites. Consumer products such as the automobile and air conditioning had a significant impact on travel and migration patterns and led to a greater dependence on foreign oil. Nuclear energy held a potential for cheap and available energy that was limited by popular concern about its safety.

The postwar period also saw **medical advancements** that impacted the health of the American people. Penicillin was used extensively during the war and stimulated the search for other miracle drugs. In the postwar period, scientists developed various vaccines to prevent childhood and other diseases, such as polio. Surgeons who had treated wounded soldiers came home to develop new surgical techniques

including advancements in heart surgery. These life-saving techniques impacted **demographic patterns** as Americans lived longer and the infant mortality rate fell. Such changes profoundly impacted society and politics.

The demand for foodstuffs during the war and prosperity of the postwar period led to **improvements in agricultural technology.** The widespread use of pesticides and chemical fertilizers provided a greater array of foods and improved nutrition which further impacted demographics. Reliance on chemicals to increase crop yields also had a long-term environmental impact and resulted in environmental legislation in the 1970s and, eventually, a worldwide concern about global warming.

**It is not essential for the students to know:**
Although students do need to know that such diseases as polio were effectively eradicated, they do not need to know the specific vaccines such as the Sabin or the Salk vaccines. They do not need to know the details of the Manhattan Project nor how an atomic bomb works. They do not need to know about the many failures of the American rocket program. They do not need to know the chronology of the space program or the names of astronauts who contributed to American space 'firsts.' They do not need to know about Rachel Carson's *Silent Spring* or about the Kyoto Treaty. They do not need to know about Three Mile Island or specifics about the debate over the use of nuclear power.

**Assessment guidelines:**
Appropriate assessments would require students to be able to **summarize** the impact of wartime research and development on the initiation of technological advancements. Students should be able to **explain** the impact of such research on the standard of living and demographic patterns. Given **examples** of technological advancements, students should be able to **identify** them as examples of technological changes associated with World War II and the postwar period. They should be able to **interpret** maps, graphs and political cartoons to **infer** their relationship to information about the time period.